

WHAT IS CLAIMED IS:

1. A method for adjusting a clock throttle rate of a central processing unit (CPU), comprising:

measuring a usage of the CPU;

comparing the measured CPU usage with a predetermined reference CPU usage range; and

adjusting the clock throttle rate of the CPU.

2. The method according to claim 1, wherein the predetermined reference CPU usage range can be set either with or without a user's input.

3. The method according to claim 1, wherein if the measured CPU usage is less than a minimum reference CPU usage of the predetermined reference CPU usage range, then the adjustment of the CPU clock throttle rate comprises reducing the CPU clock throttle rate in a stepwise fashion.

4. The method according to claim 3, wherein the reduction of the CPU throttle rate comprises adjusting the clock throttle rate to a next higher value and

repeating the process until the measured CPU usage is not less than the minimum reference usage.

5. The method according to claim 1, wherein if the measured CPU usage is between minimum and maximum reference CPU usages of the predetermined reference CPU usage range, then the adjustment of the CPU clock throttle rate is carried out by maintaining the CPU clock throttle rate.

6. The method according to claim 1, wherein if the measured CPU usage is more than a maximum reference CPU usage of the predetermined reference CPU usage range, then the adjustment of the CPU clock throttle rate is carried out by initializing the CPU clock throttle rate.

7. The method according to claim 1, wherein the CPU usage is measured by detecting registry information of a computer system.

8. The method according to claim 1, wherein the CPU usage is measured by calculating an idle thread value of the CPU for a predetermined period of time.

9. The method according to claim 1, wherein the measuring, comparing and adjusting steps are repeated in order at predetermined intervals of time.

10. The method according to claim 1, wherein the predetermined reference CPU usage range is set by an individual user of the CPU.

11. The method according to claim 1, wherein the predetermined reference CPU usage range is preset.

12. A computer, comprising:
user interface means for enabling clock throttle rate adjustment based on CPU usage;
power management means for controlling a CPU's clock throttle rate; and
device driver means for reading CPU usage and controlling said power management means.

13. The computer according to claim 12, wherein the power management means automatically controls a register in a CPU to adjust the clock rate of the CPU.

14. The computer according to claim 12, wherein the device driver means comprises a ring-3 layer, a ring-0 layer and a hardware layer.

15. A stored program for machine implemented adjustment of a clock throttle rate of a central processing unit (CPU), comprising:

a first routine that measures a usage of the CPU;

a second routine for comparing the measured CPU usage with a predetermined CPU usage range; and

a third routine for adjusting the clock throttle rate of the CPU.

16. The stored program according to claim 15, wherein the third routine comprises:

a first subroutine for reducing the clock throttle rate if the measured CPU usage is less than a minimum reference CPU usage of the predetermined CPU range;

a second subroutine for maintaining the clock throttle rate if the measured CPU usage is within the predetermined CPU usage range; and

a third subroutine for initializing the clock throttle rate if the measured CPU usage is more than a maximum reference CPU usage of the predetermined reference CPU usage range.

17. The stored program according to claim 15, further comprising a fourth routine to repeat the first to third routines at predetermined intervals of time.

18. The stored program according to claim 15, wherein the first routine comprises detecting registry information of a computer system or calculating an idle thread value of the CPU for a predetermined period of time.